

**REGISTRATION FORM
FOR THE WORKSHOP ON STREAM INVESTIGATION,
STABILIZATION, AND RESTORATION**

Sponsored by the U.S. Army Corps of Engineers Water Operations Technical Support
Program, and the Ozark National Scenic Riverways of the National Park Service
This workshop is free!!

TIME: April 14-15, 2004, starts at 8:00 am on Wed April 14th.

PLACE: The Van Buren Office of the Ozark National Scenic Riverways. This is located at 404 Watercress Drive in Van Buren, Missouri.

This workshop is limited to the first 35 people to register. The instructor will be Mr. Dave Derrick, Research Hydraulic Engineer, Engineer Research and Development Center, Vicksburg, MS. Mr. Derrick has over 25 years experience and specializes in innovative, environmentally sensitive, and cost-effective approaches and methodologies to river and stream stabilization. Workshop topics will include goal and function based design, biotechnical soil stabilization, redirective, proprietary, and resistive bank stabilization methods, how to choose a bank protective method, the importance of the riparian corridor, grade control, the Channel Evolution Model, how to read a stream, field equipment, and safety. The attempt will be made to complete the Classroom portion of the workshop in one day (April 14th), so that will be a long day. One April 15th a survey will be conducted on the Pulltite Landing Recreational Area.

Lodging is available at the following locations in Van Buren, MO:
The Landing and Ross Cliff Lodge 573-323-8433, 1 Big Spring Road
Big Springs Road Motel 573-323-8128, Highway 103 & Route 60
Starlight Motel 573-323-4673, Business Highway 60

Please make your own reservations.

I would like to register for this workshop:

NAME: _____

E-MAIL: _____

AGENCY: _____

ADDRESS: _____

PHONE: _____ FAX: _____

Return form to LOUIS.E.CLARKE@USACE.ARMY.MIL fax @870-886-3691

**STREAM INVESTIGATION, STABILIZATION AND DESIGN
WORKSHOP
WITH AN EMPHASIS ON INNOVATIVE APPROACHES TO STREAMBANK
STABILIZATION AND RESTORATION**

**April 14-15, 2004
Van Buren, Missouri**

DRAFT AGENDA

DAY 1 – First day – April 14, 2004

8:00-8:20 Student and Teacher Introductions

8:20-8:40 The Philosophy of Restoration (Goal and Function Based Design)

Session 1: STREAMBED STABILIZATION

8:40-9:45 The Channel Evolution Model (CEM), Grade Control, and Newbury
Rocked Riffles (with short break)

**Session 2: STREAMBANK STABILIZATION –ALMOST EVERY BANK
PROTECTION METHOD ANYONE HAS EVER HEARD OF**

9:45-10:15 The Importance of the Riparian Buffer Zone - Plus Innovative Ideas
to Restore Function to Aquatic and Terrestrial Areas

10:15-12:00 Bioengineering Philosophy and Methods for Streambank Protection
Using Native Plants (with break)

12:00-1:00 **LUNCH**

1:00-3:30 Indirect, Discontinuous, and Redirective Methods: Retards,
Permeable Dikes, Jacks, Vane Dikes, Impermeable Structures
Normal to Flow (Transverse Dikes, Contraction Dikes, Spur Dikes
Both High & Low and Short & Long) L-Head & T-Head Dikes,
Downstream Angled Structures, Upstream Angled Structures (Rock
Vanes), the Bendway Weir, and Combinations of Redirective and
Resistive Methods (with break).

3:30-4:45 Proprietary Methods (grouped by function)

4:45-5:00 Field Equipment, Schedule, and Lunch for Tomorrow – hip boots
and field clothes.

DAY 2 – Second day – April 15, 2003

SESSION 2: STREAMBANK STABILIZATION (continued)

- 8:00-8:10 Announcements and Housekeeping
- 8:10-8:45 Resistive and Continuous Bank Stabilization Methods (with break)
- 8:45-9:15 How to Choose a Bank Protection Method
- 9:15-9:30 **BREAK**
- 9:30-10:00 Permits, Construction, Monitoring, and Maintenance
- 10:00-11:15 How to Conduct a Field Investigation of a Streambank Erosion Problem
- a. Fundamentals of Fluvial Geomorphology
 - b. How to Read a Stream
 - c. Field Equipment
 - d. Safety
- 11:15-12:00 Review (Dave's Top 10, 46 Ways to Stay out of Trouble)
- 12:00-12:15 Field Site Introduction-Aerial photographs and gage data
- 12:15-1:15 **LUNCH**
- 1:15-1:30 Travel to field site

SESSION 3: FIELD INVESTIGATIONS-"Every stream is a classroom" DLD.

- 1:30-4:30 Field Trip: Site Analysis of Current River at Pulltite Landing Recreation Area
- a.) Development of project performance goals (function based)
 - b.) Analysis of existing, historical, and future flow and erosion processes and conditions
 - c.) Flow visualization of proposed project (based on project goals)
 - d.) Development of several stream stabilization conceptual designs
 - e.) Analyze overall effects of chosen conceptual design on the stream system and riparian corridor
- 4:30-5:00 Wrap-Up Workshop and Design Analysis
- END OF WORKSHOP**

WORKSHOP OVERVIEW AND GOALS

- * Provide a consistent philosophy of bank stabilization design, with an emphasis on understanding the stream as a complex inter-related system, and understanding both local and system-wide processes and problems.
- * Provide an overview of the concepts of grade control and the Channel Evolution Model (CEM)
- * Provide instruction in developing appropriate project goals
- * Teach bank protection methods and how to choose the appropriate method or combination of techniques
- * Clarify the importance of project constructability, monitoring, and maintenance
- * Teach students how to read a stream (with instruction in field equipment needs and safety), and how to perform a comprehensive analysis of a streambank erosion problem.
- * Reinforce the classroom lectures by performing a series of in-the-field site analyses, understanding the role of project goals in the development of conceptual flow analyses, and designing stabilization plans that relate to the project performance goals.
- * Make available via Internet, class handouts and notes, a comprehensive glossary, and avenues for help